

inner diameter of the yoke 300 is chosen to be only very slightly larger than the outer diameter of the shaft 200 or base shoulders 227 so that especially with the provision of the features 304, a tight interference fit between the lamination stack and the outer surface of the shaft or base is achieved.

As seen, as the stack is pushed over the surface of the shaft or base, the interference fit with the sharp features 304 will cause the e-coating 305 to be scraped off the ends and sides of the lamination features 304. Thus, stator grounding is achieved with no additional parts or associated costs.

IN THE CLAIMS

1. In a spindle motor comprising a shaft and a hub rotating over the shaft supported by a bearing for rotation relative to the shaft, the hub supporting a magnet radially aligned with a stator supported from an outer surface of the shaft, the stator comprising a plurality of laminations forming a laminated stack comprising an e-coating over the surface of the stack, the laminations having a circular inner yoke having an inner diameter sized to form an interference fit with a surface within the motor, the yoke further comprising a plurality of lamination features extending radially inward from the inner diameter of the yoke and adapted to have the e-coating scraped from the surface of the features by interference fit with an outer surface over which the stack is located, thereby rigidly establishing an axial, radial and circumferential location of the stator relative to the shaft while grounding the stator to the shaft or base of the motor.
2. A motor as claimed in claim 1 wherein the motor shaft has an outer surface which is fitted within an upright portion of a base of the housing, and the stator stack has an interference fit with an outer surface of the upright portion.
3. A spindle motor as claimed in claim 1 wherein the lamination features are generally semicircular in cross-section.

4. A spindle motor as claimed in claim 3 wherein the lamination features are sized to have an interference fit with the outer surface of the upright section of the base of the casing, and wherein the upright section further comprises a radially outward extending shoulder on which the stator laminations rests to axially locate the stator.

5. In a spindle motor comprising a shaft in a hub rotating over the shaft supported by bearing for rotation relative to the shaft, the hub supporting a magnet radially aligned with a stator supported from an outer surface of the shaft, an electrical grounding means incorporated with a inner yoke of stack laminations forming the stator, the grounding means conductively and rigidly fixing the stator stack laminations relative to the magnet while grounding the stator.

6. A motor as claimed in claim 1 wherein the motor shaft has an outer surface and the stator stack has an interference fit with the outer surface of the shaft.

7. A spindle motor as claimed in claim 6 wherein the lamination features are generally semicircular in cross-section.

8. A spindle motor as claimed in claim 6 wherein the shaft further comprises a radially outward extending shoulder on which the stator laminations rests to axially locate the stator, the lamination features further restraining axial movement away from the shoulder.